

**PATENT APPLICATION**  
**Attorney Docket No. Q45026**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Reissue Application of

Tsutomu Hashizume, et al.

Reissue Application of U.S. Patent  
No. 6,089,701 issued on July 18, 2000

Filed: Herewith

For: INK JET RECORDING HEAD HAVING REDUCED STRESS CONCENTRATION  
NEAR THE BOUNDARIES OF PRESSURE GENERATING CHAMBERS

**OFFER TO SURRENDER LETTERS PATENT UNDER 37 C.F.R. § 1.178**

Assistant Commissioner of Patents  
Washington, D.C. 20231

Sir:

The Letters Patent for the above-described "INK JET RECORDING HEAD HAVING REDUCED STRESS CONCENTRATION NEAR THE BOUNDARIES OF PRESSURE GENERATING CHAMBERS", U.S. Patent No. 6,089,701 issued on July 18, 2000. The Assignee hereby formally proffers to surrender the Letters Patent at the successful conclusion of prosecution of the reissue application filed concurrently herewith.

Respectfully submitted,



Richard C. Turner  
Registration No. 29,710  
Stan Torgovitsky  
Registration No. 43, 958  
Attorneys for Applicants

SUGHRUE, MION, ZINN  
MACPEAK & SEAS, PLLC  
2100 Pennsylvania Avenue, N.W.  
Washington, D.C. 20037-3202

Date: December 22, 2000

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reissue Application of

Tsutomu Hashizume, et al.

Reissue Application of U.S. Patent  
No. 6,089,701 issued on July 18, 2000

Filed: Herewith

For: INK JET RECORDING HEAD HAVING REDUCED STRESS CONCENTRATION  
NEAR THE BOUNDARIES OF PRESSURE GENERATING CHAMBERS

ASSENT OF ASSIGNEE TO REISSUE

Assistant Commissioner of Patents  
Washington, D.C. 20231

Sir:

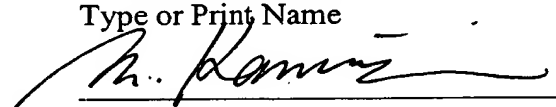
SEIKO EPSON CORPORATION, the Assignee of the entire right, title and interest of the invention (by virtue of an assignment as recorded by the U.S. Patent and Trademark Office on February 6, 1998 at Real 8963, Frame 0375), described and claimed in the above-identified U.S. Patent No. 6,089,701, hereby assents to the reissue of said patent in accordance with the Reissue Declaration and accompanying papers submitted herewith.

I undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Date: November 22, 2000

Masataka Kamiyanagi

Type or Print Name

  
Signature

Title Director, Intellectual  
Property Division

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Reissue Application of

Tsutomu Hashizume, et al.

Reissue Application of U.S. Patent  
No. 6,089,701 issued on July 18, 2000

Filed: Herewith

For: INK JET RECORDING HEAD HAVING REDUCED STRESS CONCENTRATION  
NEAR THE BOUNDARIES OF PRESSURE GENERATING CHAMBERS

**REISSUE DECLARATION UNDER 37 C.F.R. § 1.175**

We, Tsutomu HASHIZUME, Tetsushi TAKAHASHI, and Akira MATSUZAWA, all of Japan, do hereby declare and state as follows:

Our residence, post office address and citizenship are as stated below next to our names.

We believe that we are the original, first and joint inventors of the invention "INK JET RECORDING HEAD HAVING REDUCED STRESS CONCENTRATION NEAR THE BOUNDARIES OF PRESSURE GENERATING CHAMBERS" which is described and claimed in the above-identified U.S. Patent No. 6,089,701 issued on July 18, 2000 and assigned to SEIKO EPSON CORPORATION, the specification of which is submitted with this application for reissue; and that we have reviewed and understand the contents of the specification, including the new claims, as added in this application for reissue.

In compliance with 37 C.F.R. § 1.175(a)(7) and 1.63(b)(3), we hereby acknowledge our duty to disclose information of which we are aware which is material to patentability as defined in 37 C.F.R. § 1.56.

REISSUE DECLARATION UNDER 37 C.F.R. § 1.175  
REISSUE APPLICATION OF U.S. PATENT NO. 6,089,701

The priority is claimed from:

**Japanese Patent Application**

**Filing Date**

Hei. 8-88469

April 10, 1996

Hei. 8-344568

December 9, 1996

Hei. 9-083245

March 17, 1997

In compliance with 37 C.F.R. §§ 1.175(a), we hereby declare and state that the above-identified U.S. Patent No. 6,089,701 is believed to be at least partly inoperative for the reason that we claimed less than we had the right to claim in the patent.

The purpose of seeking a reissue patent is to correct the insufficiency in the patented claims by presenting new claims which are commensurate with the true scope of our invention.

Pursuant to 37 C.F.R. § 1.175(a)(1), we state as follows at least one error in the patent, which is relied on as a basis for this reissue. The patented claims 1 - 12 are apparatus claims directed to an ink jet recording head. The specification also describes process steps for forming the inventive ink jet recording head, but there are no claims directed to the method. Therefore, new claims directed to the method of forming an ink jet recording head in accordance with the invention, are hereby added by this reissue to correct an error in claiming less than we had a right to claim.

Pursuant to 37 C.F.R. § 1.175(a)(2), we state that all errors being corrected in the reissue application up to the time of filing this declaration arose without any deceptive intention.

We hereby appoint John H. Mion, Reg. No. 18,879; Thomas J. Macpeak, Reg. No. 19,292; Robert J. Seas, Jr., Reg. No. 21,092; Darryl Mexic, Reg. No. 23,063; Robert V. Sloan,

REISSUE DECLARATION UNDER 37 C.F.R. § 1.175  
REISSUE APPLICATION OF U.S. PATENT NO. 6,089,701

Reg. No. 22,775; Peter D. Olexy, Reg. No. 24,513; J. Frank Osha, Reg. No. 24,625; Waddell A. Biggart, Reg. No. 24,861; Louis Gubinsky, Reg. No. 24,835; Neil B. Siegel, Reg. No. 25,200; David J. Cushing, Reg. No. 28,703; John R. Inge, Reg. No. 26,916; Joseph J. Ruch, Jr., Reg. No. 26,577; Sheldon I. Landsman, Reg. No. 25,430; Richard C. Turner, Reg. No. 29,710; Howard L. Bernstein, Reg. No. 25,665; Alan J. Kasper, Reg. No. 25,426; Kenneth J. Burchfiel, Reg. No. 31,333; Gordon Kit, Reg. No. 30,764; Susan J. Mack, Reg. No. 30,951; Frank L. Bernstein, Reg. No. 31,484; Mark Boland, Reg. No. 32,197; William H. Mandir, Reg. No. 32,156; Brian W. Hannon, Reg. No. 32,778; Abraham J. Rosner, Reg. No. 33,276; Bruce E. Kramer, Reg. No. 33,725; Paul F. Neils, Reg. No. 33,102; Brett S. Sylvester, Reg. No. 32,765; Robert M. Masters, Reg. No. 35,603; George F. Lehnigk, Reg. No. 36,359; John T. Callahan, Reg. No. 32,607 and Steven M. Gruskin, Reg. No. 36,818, my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, and request that all correspondence about the application be addressed to **SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC**, 2100 Pennsylvania Avenue, N.W., Washington, D.C. 20037-3213.

We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

REISSUE DECLARATION UNDER 37 C.F.R. § 1.175  
REISSUE APPLICATION OF U.S. PATENT NO. 6,089,701

First Inventor

<u>Tsutomu</u>	<u>Hashizume</u>
First Name	Last Name

Residence Nagano-ken, Japan

Signature Tsutomu Hashizume

Post Office Address: c/o SEIKO EPSON CORPORATION,

3-5, Owa 3-chome, Suwa-shi, Nagano-ken, Japan

Citizenship Japan

Date November 22, 2000

REISSUE DECLARATION UNDER 37 C.F.R. § 1.175  
REISSUE APPLICATION OF U.S. PATENT NO. 6,089,701

Second Inventor

Tetsushi Takahashi  
First Name Last Name

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Signature Tetsushi Takahashi

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Date Nov 20, 2000

Third Inventor

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Signature Akira Matsuzawa

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3-5, Owa 3-chome, Suwa-shi, Nagano-ken, Japan

Citizenship Japan

Date Nov 20, 2000

# Assignment

Whereas, I/We, Tsutomu Hashizume, Tetsushi Takahashi and ~~xxx~~  
Akira Matsuzawa of Nagano, Japan

hereinafter called assignor(s), have invented certain improvements in

INK JET RECORDING HEAD

and executed an application for Letters Patent of the United States of America therefor on  
May 26, 1997; and

Whereas, Seiko Epson Corporation of 4-1,  
Nishi-Shinjuku 2-chome, Shinjuku-ku,  
Tokyo, Japan  
(assignee), desires to acquire the entire right, title, and interest in the application and invention, and to  
any United States patents to be obtained therefor;

Now therefore, for valuable consideration, receipt whereof is hereby acknowledged,

I/We, the above named assignor(s), hereby sell, assign and transfer to the above named assignee, its  
successors and assigns, the entire right, title and interest in the application and the invention disclosed  
therein for the United States of America, including the right to claim priority under 35 U.S.C. §119, and  
I/we request the Commissioner of Patents to issue any Letters Patent granted upon the invention set forth  
in the application to the assignee, its successors and assigns; and I/we will execute without further  
consideration all papers deemed necessary by the assignee in connection with the United States application  
when called upon to do so by the assignee.

I/We hereby authorize and request my attorneys SUGHRUE, MION, ZINN, MACPEAK & SEAS of  
2100 Pennsylvania Avenue, N.W., Washington, D.C. 20037-3202 to insert here in parentheses (Application  
number 08/835,748, filed April 10, 1997) the filing date and application  
number of said application when known.

Date: 05/26/1997 s/ Tsutomu Hashizume

Date: 05/26/1997 s/ Tetsushi Takahashi

Date: 05/26/1997 s/ Akira Matsuzawa

Date: s/ \_\_\_\_\_

Date: s/ \_\_\_\_\_

(Legalization not required for recording but is prima facie evidence of execution under 35 U.S.C. §261)





UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office  
ASSISTANT SECRETARY AND COMMISSIONER  
OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

JANUARY 23, 1998

PTAS

SUGHRUE, MION, ZINN, ET AL.  
DARRYL MEXIC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, D.C. 20037-3202



\*100590455A\*

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RECORDATION DATE: 11/24/1997

REEL/FRAME: 8833/0354  
NUMBER OF PAGES: 2

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

HASHIZUME, TSUTOMU

DOC DATE: 05/26/1997

ASSIGNOR:

TAKAHASHI, [TETSUJI]  
Tetsushi

DOC DATE: 05/26/1997

ASSIGNOR:

MATSUZAWA, AKIRA

DOC DATE: 05/26/1997

ASSIGNEE:

SEIKO EPSON CORPORATION  
4-1, NISHI-SHINJUKU 2-CHOME, SHINJUKU-KU  
TOKYO, JAPAN

SERIAL NUMBER: 08835748  
PATENT NUMBER:

FILING DATE: 04/10/1997  
ISSUE DATE:



02-23-1998



MRP 2/6/98

To the Honorable Commissioner of Patents and Trademarks. Please

100639778

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FEB 06 1998

RECEIPT ACCTG. DIV.

1. Name of conveying party(ies):  
Tsutomu HASHIZUME, Tetsushi TAKAHASHI and Akira MATSUZAWA

2. Name and address of receiving party(ies)?

Name: SEIKO EPSON CORPORATION

Internal Address: 4-1, Nishi-Shinjuku, 2-chome, Shinjuku-ku, Tokyo, Japan

Additional name(s) of conveying party(ies) attached?  
☐ yes ☒ no

Street Address: Same As Above

3. Nature of Conveyance:

☐ Assignment ☐ Merger

City State Zip

☐ Security Agreement ☐ Change of Name

Additional name(s) & address(es) attached?

☒ Other--to correct Assignor's Name at Reel 8833, Frame 0354

☐ yes ☒ no

Execution Date: May 26, 1997

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s)

B. Patent No(s).

08/835,748

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

SUGHRUE, MION, ZINN, MACPEAK & SEAS  
2100 Pennsylvania Avenue, N.W.  
Suite 800  
Washington, D.C. 20037-3202

6. Total number of applications and patents involved: One

7. Total Fee (37 CFR 3.41): \$ 40.00

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☐ Authorized to be charged to Deposit Account

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9. Statement and Signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Darryl Mexic  
Name: Darryl Mexic Reg. No. 23,063

February 6, 1998  
Date

408

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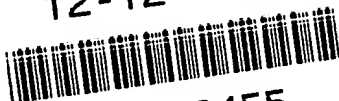
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Patent and Trademark Office

To the Honorable Commissioner of P.

record the attached original documents or copy thereof.

1. Name of conveying party(ies):  
Tsutomu HASHIZUME, Tetsuji TAKAHASHI and Akira  
MATSUZAWA  
Tetsushi

2. Name and address of receiving party(ies)?  
Name:  
SEIKO EPSON CORPORATION  
Internal Address:  
4-1, Nishi-Shinjuku 2-chome, Shinjuku-ku, Tokyo, Japan  
Street Address:  
Same as above

Additional name(s) of conveying party(ies) attached?  
☐ yes ☒ no

City State Zip

3. Nature of Conveyance:

Additional name(s) & address(es) attached?  
☐ yes ☒ no

☒ Assignment ☐ Merger  
☐ Security Agreement ☐ Change of Name  
☐ Other

Execution Date: May 26, 1997

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is:

A. Patent Application No.(s)

B. Patent No(s).

08/835,748

Additional numbers attached? Yes ☒ No

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2100 Pennsylvania Avenue, N.W.  
Suite 800  
Washington, D.C. 20037-3202

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One (1)

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9. Statement and Signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

*Darryl Mexic*  
Name Darryl Mexic Reg. No. 23,063

November 24, 1997  
Date

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APRIL 07, 1998

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\*100639778A\*

CORRECTED NOTICE

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RECORDATION DATE: 02/06/1998

REEL/FRAME: 8963/0375  
NUMBER OF PAGES: 3

BRIEF: TO CORRECT ASSIGNOR'S NAME AT REEL 8833, FRAME 0354

ASSIGNOR:

HASHIZUME, TSUTOMU

DOC DATE: 05/26/1997

ASSIGNOR:

TAKAHASHI, TETSUSHI

DOC DATE: 05/26/1997

ASSIGNOR:

MATSUZAWA, AKIRA

DOC DATE: 05/26/1997

ASSIGNEE:

SEIKO EPSON CORPORATION  
4-1 NISHI-SHINJUKU  
2-CHOME, SHINJUKU-KU  
TOKYO, JAPAN

SERIAL NUMBER: 08835748  
PATENT NUMBER:

FILING DATE: 04/10/1997  
ISSUE DATE:

TONYA LEE, EXAMINER  
ASSIGNMENT DIVISION  
OFFICE OF PUBLIC RECORDS